REMARKS

In response to the non-final Office Action dated November 23, 2007, Applicants hereby request reconsideration of the pending claims in light of the amendments above and the following remarks.

STATUS OF CLAIMS

Claims 1-20 as originally filed were pending.

Claims 16-20 are canceled, without prejudice or disclaimer of the subject matter therein, for possible inclusion in a divisional application.

Claims 21 and 22 are newly added.

Accordingly, claim 1-15, 21, and 22 are before the Examiner for consideration.

NEW CLAIMS

Regarding the restriction requirement set forth in the Office Action dated October 4, 2007, new claims 21 and 22 are believed to be commensurate in scope with claims 1-15 of the elected invention, e.g., because (i) new claims 21 and 22 are drawn to the same category of invention, namely, an apparatus for forming duct reinforcing rods, and (ii) the various "means" of elected independent claim 1 encompass the recited elements of claims 21 and 22. Accordingly, examination of new claims 21 and 22 is believed proper as being within the scope of the elected invention, and favorably consideration is thereby respectfully requested.

Claims 21 and 22 are believed clearly allowable as reciting a combination of elements neither shown nor suggested in the prior art of record, alone or in combination. The remarks below regarding claim 1 are also applicable.

CLAIM REJECTIONS

Claims 1-15 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The claims have been appropriately

amended to avoid the confusing language. (It is noted that the original intent was to claim an apparatus for fabricating duct reinforcing rods.)

Claims 1-3 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,901,969 to Siiter ("Siiter") in view of U.S. Pat. No. 3,590,464 to Wildi et al. ("Wildi"). Applicants hereby traverse the subject rejection, it being respectfully submitted that a *prima facie* case of obviousness has not been established as to independent claim 1, because neither Siiter nor Wildi show the various "means" recited in claim 1.

To explain further, claim 1 as amended includes the following elements:

- positioning means for establishing a relative insertion position between a conduit and a threaded element;
- insertion means for inserting said threaded element a predetermined distance into said conduit; and
- deformation means for deforming said conduit such that said deformation occurs at two locations on said conduit, wherein said two locations are longitudinally spaced from one another along a length of said conduit for fixing said threaded element in place inside said conduit.

As set forth at M.P.E.P. § 2141, "A claim limitation will be presumed to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis: (A) the claim limitations must use the phrase 'means for' or 'step for;' (B) the 'means for' or 'step for' must be modified by functional language; and (C) the phrase 'means for' or 'step for' must not be modified by sufficient structure, material, or acts for achieving the specified function." Here, in regards to claim 1, each of the elements of claim 1 listed above is expressed as a "means for." Additionally, each element is modified by functional language, and is not modified by any structure, material, or acts for achieving the listed function. Accordingly, each of the elements of claim 1 listed above fall within the ambit of 35 U.S.C. § 112, sixth paragraph.

If a claim element invokes 35 U.S.C. § 112, sixth paragraph, the following steps are carried out for interpreting the element: (i) the function of the claim

element is defined; and (ii) the specification is reviewed to identify the corresponding structure for that function. Correspondingly, the following are required for a prior art reference to be deemed to disclose the element in question: (i) the prior art reference must perform the identical function recited in the claim element; and (ii) the prior art reference must show the same or equivalent structure as that disclosed in the specification as corresponding to the claims means-plus-function element. See M.P.E.P. §§ 2181-2182.

Regarding the "positioning means" of claim 1, the function is clearly recited as "establishing a relative insertion position between a conduit and a threaded element," i.e., arranging a conduit (such as a length of tubing) and a threaded element (such as a nut or bolt) so that the threaded element is aligned with the conduit for insertion therein. With reference to the specification, there are two structures clearly disclosed for carrying out this function. The first is in the embodiment shown and described with respect to FIGS. 8-12. Here, an "arresting depression" 214 is used to hold a threaded element 104, and a rack and pinion mechanism 206, including a pair of matching tube pushers 218, is used to hold a length of conduit 102 relative to the threaded element 104. See Application at §§ 0046-0049. The second is in the embodiment shown and described with respect to FIGS. 13-18. Here, a length of conduit 102 is supported by a support base 301 and held in place by a clamping station 304. A threaded element 104 is moved into place, in alignment with the conduit 102, by simply loading it into place (see Application at § 0061), or through action of an automatic feed device 342. See Application at §§ 0052-0064.

Regarding the "insertion means" of claim 1, the function is clearly recited and self-defined as "inserting said threaded element a predetermined distance into said conduit." With reference to the specification, there are two structures clearly disclosed for carrying out this function. The first is in the embodiment shown and described with respect to FIGS. 8-12. Here, the tube pushers 218, driven by the rack and pinion mechanism 206, "force the tubing 102 in a downward, substantially vertical motion and over the head 106 of the bolt 104." Application, § 0048. The second is in the embodiment shown and described with respect to FIGS. 13-18.

Here, an insertion device 308 (e.g., nut insertion punch 330 or bolt insertion punch 332) is driven by a pneumatically operated solenoid 336 for urging a threaded element 104 into a length of conduit. See Application at §§ 0060-0061.

Regarding the "deformation means" of claim 1, the function is clearly recited and self-defined as "deforming said conduit such that said deformation occurs at two locations on said conduit, wherein said two locations are longitudinally spaced from one another along a length of said conduit for fixing said threaded element in place inside said conduit." With reference to the specification, there are two structures clearly disclosed for carrying out this function. The first is in the embodiment shown and described with respect to FIGS. 8-12, namely, a pair of power driven (e.g., pneumatically driven) crimper slide blocks 216 with angled crimpers 220. As set forth in sections 0047 and 0049 of the application:

> A matching pair of crimper slide blocks 216 are also shown in Figure 9 and are selectively slidable towards one another in order to accomplish the formation of the crimps 110 and 112, shown in Figure 4. ...
>
> Once the tubing has been pushed over the head 106 of the bolt 104, the pair of crimper slide blocks 216 are actuated and are brought to bear upon the exterior surface of the tubing 102, as illustrated in Figure 12. As the crimper slide blocks 216 impinge upon the exterior surface of the tubing 102, a pair of angled crimpers 220, shown in Figure 9, create the crimps 110 and 112 in the tubing 102. Thus, the head 106 of the bolt 104 is securely fixed between the crimps 110 and 112.

The second is in the embodiment shown and described with respect to FIGS. 13-18. Here, a crimping station 306 includes a pair of pneumatically actuated crimping arms 324. "It is the function of the crimping station 306 to produce the crimps, 110 and 112, that hold the bolt or nut within the conduit 322, as discussed previously in conjunction with Figures 4 and 5. Indeed, in order to form both sets of crimps, 110 and 112, in a single operation, the crimping station 306 is preferably provided with

two pairs of crimping arms 324, disposed one behind the other as viewed in Figure 15." Application, § 0056.

Turning back to the Siiter and Wildi references, even if one or both disclose the various functions listed in claim 1, neither reference shows the same or equivalent structure, disclosed in the application as described above, for carrying out the listed functions. In regards to Wildi, this reference discloses a magnetic forming device 20 that generates a time varying magnetic field for causing an "outer member" 40 to compress over a "female member" 44. See Wildi at FIG. 1; col. 3, lines 43-63. Clearly, a magnetic forming device is neither the same nor equivalent to a pair of crimper slide blocks with angled crimpers and/or a crimping station that includes a pair of pneumatically actuated crimping arms. Additionally, no substantial detail is given in Wildi about how the outer member 40 and female (or other) member 44 are positioned, or how the female member 44 is inserted into the outer member 40. Accordingly, it cannot reasonably be said that Wildi discloses any of the positioning means, insertion means, or deformation means recited in claim 1.

FIGS. 9A-9D of Siiter show a hand-actuated[1] device for crimping a conduit to a plug. As explained in Siiter at col. 6, line 61-col. 7, line 6:

> As shown in FIG. 9A, a pneumatic fixture is bench mounted, with a peg extending vertically from the bench. A plug is slipped over the peg, as shown in FIG. 9B. The plug is covered with a conduit, shown in FIG. 9C, which preferably has a 1/2" or 3/4" diameter. Using the pneumatic crimping device, the conduit is crimped, preferably in only about one second, onto the plug, as shown in FIG. 9D.

Regarding the "positioning means" of claim 1, Siiter fails to show (i) a rack and pinion mechanism, including a pair of matching tube pushers, which is used to vertically hold a length of conduit relative to the threaded element, or (ii) a length of conduit horizontally supported by a support base and held in place by a

[1] Reference is made to the original drawings of U.S. Provisional Application No. 60/346,526, filed January 8, 2002, from which Siiter claims priority, which show that the device of FIGS. 9A-9D is hand actuated.

clamping station. Regarding the "insertion means" of claim 1, Siiter fails to show (i) rack and pinion driven tube pushers for forcing tubing or conduit in a downward, substantially vertical motion and over the head of a threaded element, or (ii) a power driven punch for urging a threaded element into a length of conduit. Regarding the "deformation means" of claim 1, Siiter fails to show (i) a pair of power driven crimper slide blocks with angled crimpers, or (ii) a crimping station that includes a pair of pneumatically actuated crimping arms.

As should be appreciated, Siiter fails to show the same structure as the present application for carrying out the functions of the various "means" recited in claim 1. Additionally, because Siiter is generally related to a simple hand actuated device, it is Applicants' position that Siiter fails to disclose structure that is equivalent to any of that disclosed in the present application for carrying out the functions of the various "means" recited in claim 1. For example, in regards to the "insertion means," Siiter discloses manually disposing a length of conduit over a plug. (Again, reference is made to Footnote No. 1, as demonstrating that the device in FIGS. 9A-9D in Siiter is hand actuated.) It cannot reasonably be said that a process involving placing a conduit over a plug by hand is the same, or achieves the same result, as a process that involves the use of either a power-driven punch or a rack and pinion driven pair of tube pushers. See M.P.E.P. at § 2183 ("Factors that will support a conclusion that the prior art element is an equivalent are: (A) the prior art element performs the identical function specified in the claim in substantially the same way, and produces substantially the same results as the corresponding element disclosed in the specification.")

Because Siiter and Wildi fail to show, alone or in combination, the same or equivalent structure as disclosed in the present application for carrying out the various "means" elements of claim 1, it follows that the references in combination do not disclose all the elements and limitations recited in claim 1. Accordingly, it is believed that a *prima facie* case of obviousness has not been established as to claim 1.

Applicants acknowledge that "[t]he prior art reference (or references when combined) need not teach or suggest all the claim limitations." M.P.E.P. § 2141(III). However, as also set forth in this section of the M.P.E.P., "Office personnel must

explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art." Here, even though Siiter and Wildi fail to show the various "means" recited in claim 1, no explanation has been given as to why the claimed invention would have been obvious to one of ordinary skill in the art nonetheless.

Further regarding claim 1, notwithstanding the various "means" limitations in claim 1, Applicants disagree that an adequate rationale was otherwise set forth in the Office Action as to why one of ordinary skill in the art would have found the subject matter of claim 1 obvious in light of Siiter and Wildi.[2] However, because claim 1 is believed allowable for the reasons stated above, further argument as to this point is not included herein, for the sake of brevity. Applicants reserve the right to further address the issue of obviousness pending the Examiner's reconsideration of claim 1 in light of the remarks above.

Claims 2-15, which depend from claim 1, are believed allowable as depending from an allowable base claim. Applicants further aver that the additional subject matter of at least some of these claims would not have been obvious in light of the references cited in the Office Action. However, again considering that claim 1 is believed allowable, further argument as to this point is not included herein, for the sake of brevity. Applicants reserve the right to further address the issue of obviousness as to these claims, pending the Examiner's reconsideration of claim 1 in light of the remarks above.

On page 3 of the Office Action (paragraph 3), it was stated that claims 4-5 were rejected, but no specific basis for rejection was given in regards to claims 6-7. Clarification is respectfully requested.

---

[2] For example, the longitudinal groove in the plug portion of Siiter provides a positive lock between the conduit and plug, i.e., the crimped conduit actually extends into the body of the plug. As such, one of ordinary skill in the art would not have sought to replace such a positive lock with a system that doesn't include such an element.

CONCLUSION

In view of the foregoing, it is respectfully submitted that pending claims 1-15, 21, and 22 are in condition for allowance and action to that effect is earnestly solicited.

No fees are believed due for the present submission. However, authorization is hereby given to charge any fees owed to our Deposit Account No. 13-0235.

Respectfully submitted,

By /John A. Kramer/
John A. Kramer
Registration No: 46,302
Attorney for Applicants

Customer No. 35301
McCORMICK, PAULDING & HUBER LLP
CityPlace II
185 Asylum Street
Hartford, CT 06103-3402
(860) 549-5290